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Convex shapes and harmonic caps

Any planar "shape" P can be embedded isometrically as part of a convex surface S in $\mathbb{R}^3$ such that the boundary of P is the support of the curvature of S. In particular, if P is a connected filled Julia set of a polynomial, this can be done so that the curvature distribution of the convex surface is proportional to the measure of maximal entropy on the Julia set. What would the associated convex subset of $\mathbb{R}^3$ look like? What can it tell us about the dynamics of the polynomial? This talk is based on joint work with L. DeMarco.